LOL-HECO-IR-77

Ref: (T-4, various sections)

Question(s):

a. How would each proposed segment of the Proposed Option impact (1) critical loads; (2) Waikiki; and (3) those who are satisfied with the current level of reliability?

b. How would each proposed segment of the Proposed Option impact each of the four concerns (two overload situations; two reliability concerns)?

c. What is the cost/benefit of installing each component?

d. Which segments of the Proposed Option are more critical to (1) Waikiki; (2) civil defense; and (3) critical loads?

HECO Response:

a. HECO is assuming the question is asking how these three identified groups would be impacted after each phase of the Kamoku 46kV Underground Alternative – Expanded is installed, and if the two of the 138kV transmission lines feeding the Pukele Substation were unavailable.

   1. Critical loads, which are identified by HECO using guidelines shown in response to LOL-HECO-IR-72, in the area would experience outages, as shown in HECO-ST-406. The critical loads served by the substations shown in the "No Interruption" column are loads which are served from the Pukele Substation prior to Phase 1. After Phase 1 is installed, these loads (including critical loads) will be transferred to the Archer Substation, and would not experience an outage if both 138kV transmission lines to the Pukele Substation were unavailable. After Phase 2 is installed, critical loads currently served by the Pukele Substation will experience either no interruption or up to a 6-second outage if the two 138kV transmission lines feeding the Pukele Substation are

unavailable. Refer to HECO-ST-407.

2. The streets that bound the "Waikiki" area are Kalakaua Avenue, Ala Wai Boulevard, Kapahulu Avenue and Ala Moana Boulevard up to the Hawaii Prince Hotel. This defined area is served by the Waikiki, Kapiolani, Kuhio and a portion of the Kapahulu Substations. As shown in HECO-ST-406, after Phase 1, a portion of the loads served by these substations and all of the Kuhio Substation should not experience an interruption of service if the two 138kV transmission lines feeding the Pukele Substation are lost. In addition, a portion of the load served by the Waikiki, Kapiolani and Kapahulu Substations could experience up to a 6-second outage.
3. Satisfaction with the current level of reliability is a matter of customer opinion. Customers are served by various distribution circuits, which are fed by the 46kV substations served by the Pukele Substation. Even in a hypothetical situation where a survey was done to determine which customers are satisfied with the reliability of service, these customers may be served by circuits which serve critical loads or large hotels and commercial centers, and would benefit from the added reliability provided by the proposed project. Therefore, as explained in response to 1 and 2 above, these customers would experiences no outages, 6-second outages or 2-4 hour outages after Phase 1 is installed (see HECO-ST-406), and no outages or up to a 6-second outage after Phase 2 is installed (see HECO-ST-407). The duration of their outage will depend on which substation these customers are being served from.

b. Please refer to HECO T-4, pages 56-63, the response to CA-IR-11 and the correction explained in HECO ST-4, page 8.

c. HECO objects to this question as it is vague and ambiguous, as the question does not state

what is meant by "component". The question could also be construed to be unduly burdensome and onerous if it was asking about a cost/benefit analysis for each piece of equipment being used for the project. Without waiving its objection, HECO provides the following response. HECO has not performed a cost/benefit analysis.

d. HECO is assuming the question is asking which Phase (either Phase 1 or Phase 2) of the Kamoku 46kV Underground Alternative – Expanded project is effective at addressing the transmission issues identified (i.e., the Koolau/Pukele Line Overload Situation, the Pukele Substation Reliability Concern, the Downtown Line Overload Situation and the Downtown Substation Reliability Concern identified in HECO T-4). Please refer to the response to subpart a. The Hawaii State Civil Defense is considered a critical load and the impact to the Hawaii State Civil Defense was explained in the response to subpart a.1.